REMARKS

Applicant respectfully requests consideration of the subject application as amended herein. This Amendment is submitted in response to the Office Action mailed on August 23, 2005. Claims 13, 17-22 and 27-31 are rejected. Claims 13 and 19 have been amended. No new matter has been added by this Amendment.

35 U.S.C. § 112 paragraph 2

The Examiner rejected claim 19 under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention for the limitation of "...the dielectric layer includes an emitter cut..."

Claim 19 has been amended to address the Examiner's concern. Claim 19 now reads:

> The bipolar junction transistor according to claim 13, further including:
> in the substrate, an epitaxial base layer disposed below the emitter stack;
> a collector structure disposed in the substrate below the emitter stack;
> a dielectric layer disposed above the substrate and below the emitter stack;
> wherein the dielectric layer is patterned for said emitter cut to be formed therein and above the collector structure; and
> [[an]] wherein the intrinsic base structure is disposed between the emitter cut and the collector structure.

Applicant submits that in the currently amended form, claim 19 is not indefinite.

35 U.S.C. § 102 (b)

The Examiner rejected claims 13, 17-20, 22, and 27-31 under 35 U.S.C. § 102(b) as being anticipated by Akbar et al (U.S. Pat. No. 4,957,875 "Akbar"). Applicant respectfully disagrees.

Independent claim 13, in its currently amended form reads:

> A bipolar junction transistor comprising:
> in a substrate, a first isolation structure spaced apart from a second isolation structure;
> an emitter stack disposed above the substrate and between the first isolation structure and the second isolation structure;
> a recess disposed immediately adjacent to the emitter stack and disposed between the emitter stack and the first isolation structure, wherein the recess exposes a collector tap, wherein the emitter stack and the recess share a boundary; and
> an emitter cut provided at the bottom of said emitter stack and on top of an intrinsic base structure formed in the substrate.

Akbar taught (in brief summary) a bipolar transistor, comprising:

> a collector layer; a base layer disposed over the collector layer; an emitter layer disposed over the base layer; a first sidewall insulating layer disposed adjacent to and in contact with one side of the emitter layer, the base layer, and at least a portion of the collector layer; a second sidewall insulating layer disposed adjacent to and in contact with another side of the emitter layer and at least a portion of the base layer; a base contact extension layer formed from heavily doped semiconductor material of the same conductivity type as the base layer, said base contact extension layer being in contact with and extending laterally from another side of the base layer; a base contact interconnect disposed on a surface of the base contact extension layer; a collector contact extension layer formed from doped semiconductor material with the same conductivity type as the collector layer, with the collector contact extension layer being in contact with the collector layer and extending laterally from or below the one side thereof; and a collector contact interconnect disposed on a surface of the collector contact extension layer and separated from the emitter layer by only, one or more insulating layers.

Akbar did not teach an emitter cut formed in a patterned are of a dielectric layer as claimed in claim 13. In Applicant's invention, an emitter cut is provided and one

function of the emitter cut is to facilitate the formation of an intrinsic base (for example, intrinsic base region 148, figure 5 of Applicant's invention).

As can be understood from Akbar, the emitter stack 16 does not include an emitter cut (Figure 8 of Akbar). Thus, Applicant respectfully submits that claim 13 is not anticipated by Akbar.

Claims 17-20, 22, and 27-31 indirectly or directly depend from claim 13 and are thus similarly not anticipated by Akbar.

35 U.S.C. § 103(a)

The Examiner rejected claim 21 under 35 U.S.C. § 103(a) over Akbar in view of Suzuki (U.S. Pat. No. 6,476,452).

Claim 21 indirectly or directly depend from claim 13 thus, the same reasons above is applicable here. Akbar did not teach an emitter cut formed in a patterned are of a dielectric layer as claimed in claim 21. In Applicant's invention, an emitter cut is provided and one function of the emitter cut is to facilitate the formation of an intrinsic base (for example, intrinsic base region 148, figure 5 of Applicant's invention). Thus, even if Suzuki shows a bipolar junction transistor where the substrate includes a BiCMOS structure, claim 21 is not obvious under the combination of Akbar and Suzuki as the two combined references would have not led to the limitations recited in claim 21.

Applicant respectfully submits that at least for the reasons above, Applicant's invention is patentable over the cited references.

Deposit Account Authorization

Authorization is hereby given to charge our Deposit Account No. 02-2666 for any charges that may be due. Furthermore, if an extension is required, then Applicant hereby requests such extension.

If the Examiner determines the prompt allowance of these claims could be facilitated by a telephone conference, the Examiner is invited to contact Mimi Diemmy Dao at (408) 720-8300.

Respectfully submitted,

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